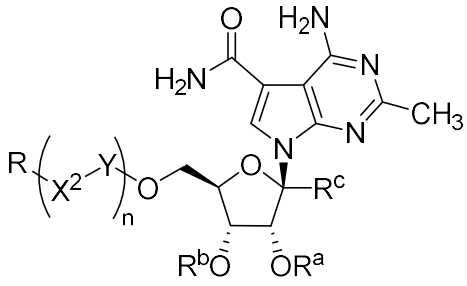
optionally substituted with one or more halogen, oxo, aryl, heteroaryl, –OH, –NH_2, –SH, –OC(O)H,–C(O)OH, –NHC(O)OH, or –NHC(O)H;

R^d is independently –H or–D; and

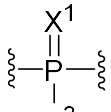
n is independently 0, 1, 2 or 3.

[0009a] In one aspect, the present disclosure refers to a compound of Formula II:



(II)

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof, wherein:

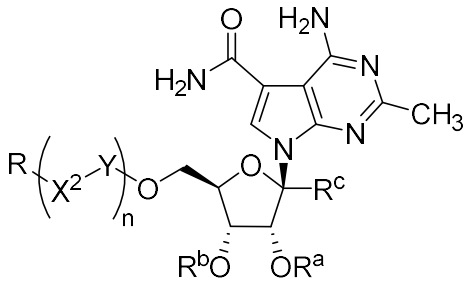
Y is –C(O)–, or  , wherein X^1 is independently O, NH, or S, X^2 is independently a bond, –O–, –S–, or –NH–, and X^3 is independently –OR, –NHR, or –SR;

each R is independently –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20}alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo, R^1, –OR^1, –NR^1R^2, –SR^1, –$OC(O)R^1$,–$C(O)OR^1$, –$NHC(O)OR^1$, or –$NHC(O)R^1$;

R^a and R^b are each independently, at each occurrence, –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20} alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo –OR^1, –NR^1R^2, –SR^1, –$OC(O)R^1$,–$C(O)OR^1$ –$NHC(O)OR^1$, or –$NHC(O)R^1$;

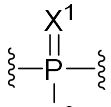
What is claimed is:

1. A compound of Formula II:



(II)

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof, wherein:

Y is –C(O)–, or  , wherein X^1 is independently O, NH, or S, X^2 is independently a bond, –O–, –S–, or –NH–, and X^3 is independently –OR, –NHR, or –SR;

each R is independently –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20}alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo, R^1, –OR^1, –NR^1R^2, –SR^1, –$OC(O)R^1$,–$C(O)OR^1$, –$NHC(O)OR^1$, or –$NHC(O)R^1$;

R^a and R^b are each independently, at each occurrence, –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20} alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo –OR^1, –NR^1R^2, –SR^1, –$OC(O)R^1$,–$C(O)OR^1$ –$NHC(O)OR^1$, or –$NHC(O)R^1$;

R^1 and R^2 are each independently, at each occurrence, –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20}alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo, –R^3, –R^4, –OR^3, –NR^3R^4, –SR^3, –$OC(O)R^3$,–$C(O)OR^3$, –$NHC(O)OR^3$, or –$NHC(O)R^3$;

R^3 and R^4 are each independently, at each occurrence, –H, –C_1-C_{20}alkyl, –C_2-C_{20}alkenyl, –C_2-C_{20}alkynyl, –C_3-C_8 cycloalkyl, –C_4-C_8 cycloalkenyl, aryl, heteroaryl, or heterocyclyl, wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl, or heterocyclyl is optionally substituted with one or more halogen, oxo, aryl, heteroaryl, –OH, –NH_2, –SH, –OC(O)H,–C(O)OH, –NHC(O)OH, or –NHC(O)H;

R^c is independently –H or–D; and

n is independently 0, 1, 2 or 3.

2. The compound of claim 1, wherein R^a is –H.

3. The compound of claim 1, wherein R^b is –H.

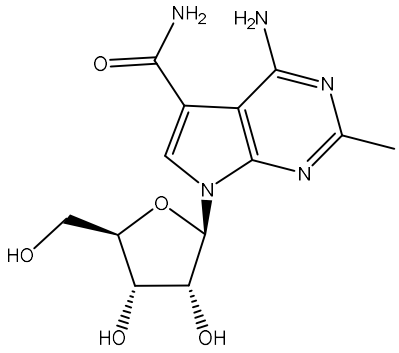
4. The compound of claim 1, wherein R^c is –H.

5. The compound of claim 1, wherein n is 0.

6. The compound of claim 1, wherein R^a, R^b and R^c are –H.

7. The compound of claim 1, wherein R^a, R^b and R^c are –H and n is 0.

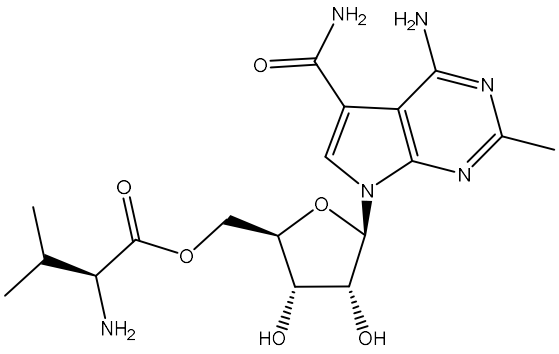
8. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

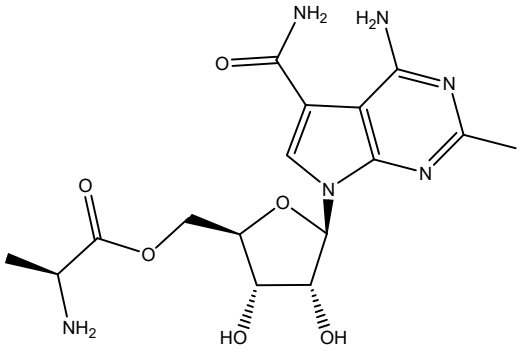
9. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

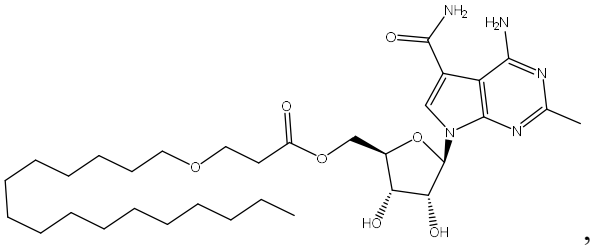
10. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

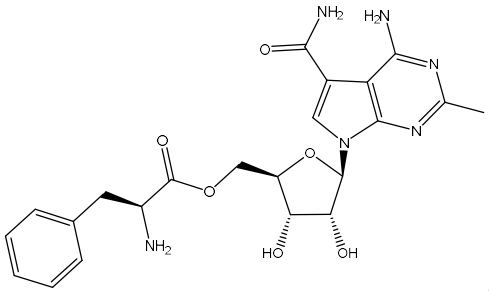
11. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

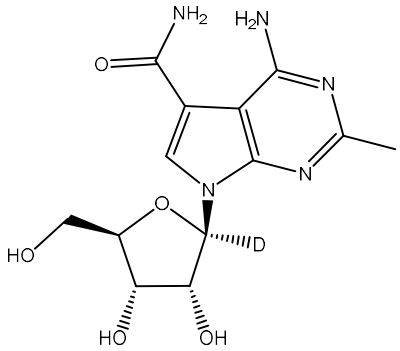
12. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

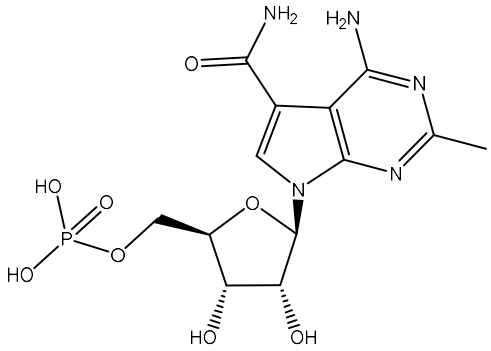
13. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

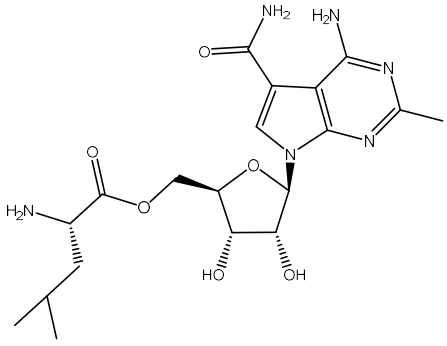
14. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

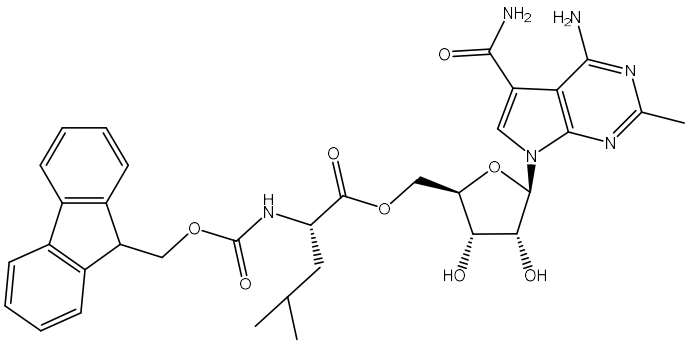
15. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

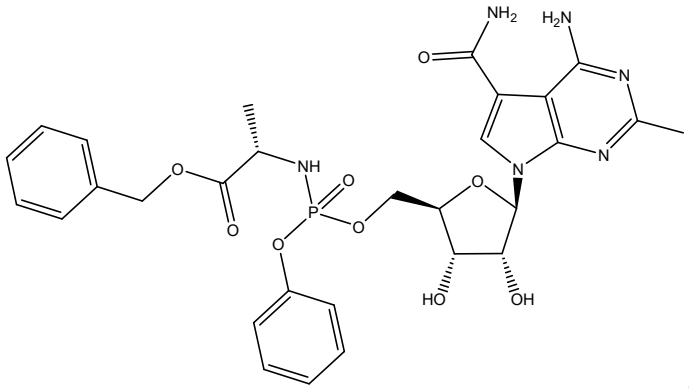
16. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

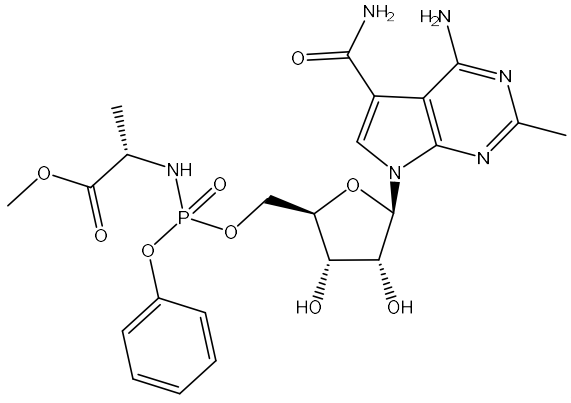
17. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

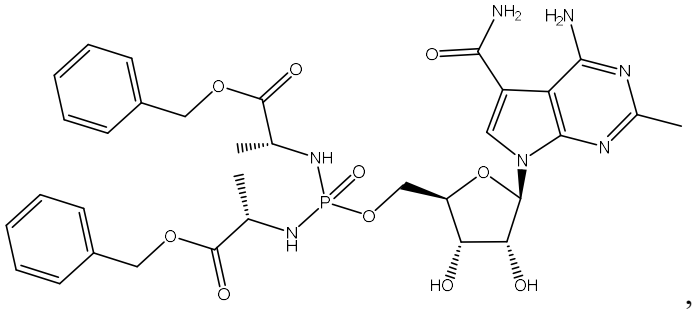
18. The compound of claim 1, wherein the compound is:



,

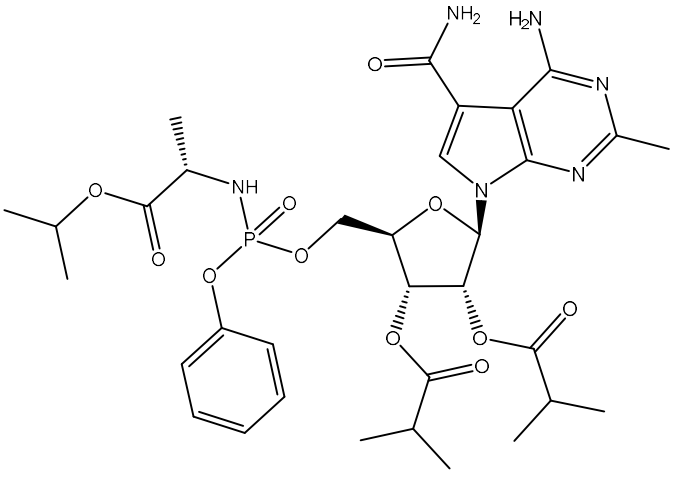
or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

19. The compound of claim 1, wherein the compound is:



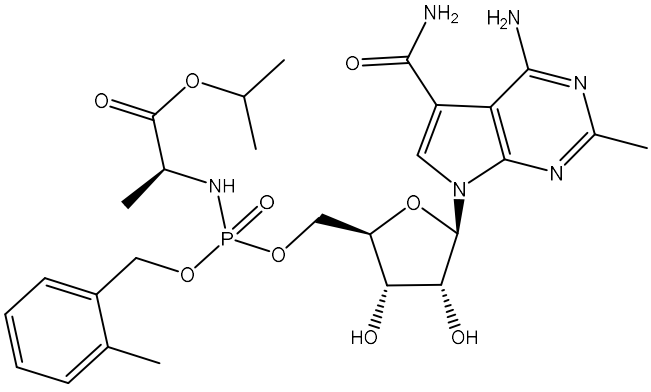
or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

20. The compound of claim 1, wherein the compound is:



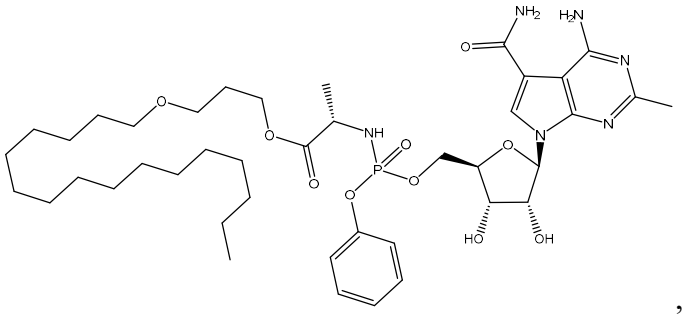
or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

21. The compound of claim 1, wherein the compound is:



or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

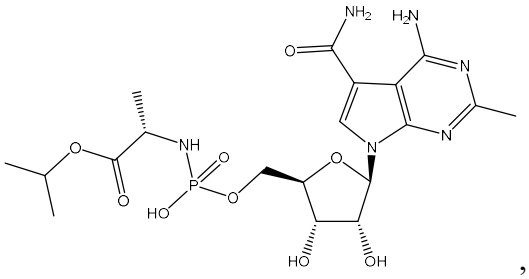
22. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

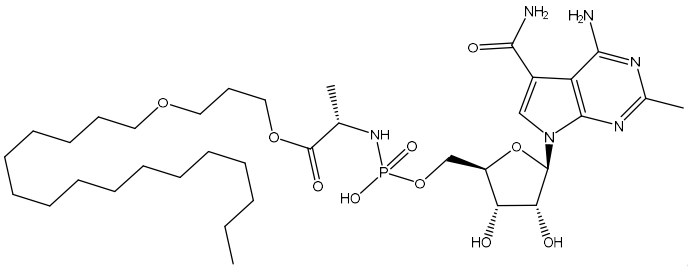
23. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

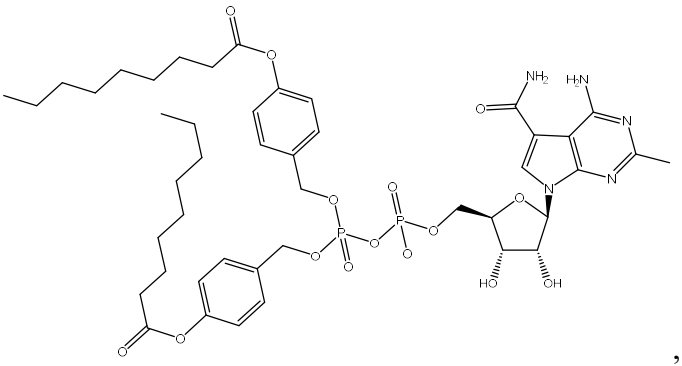
24. The compound of claim 1, wherein the compound is:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

25. The compound of claim 1, wherein the compound is:

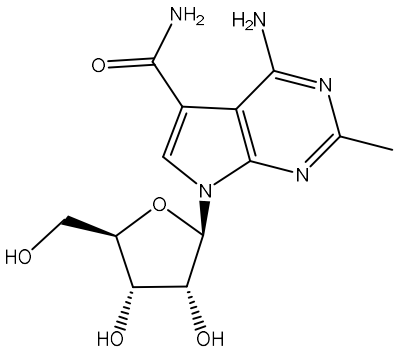


,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof.

26. A pharmaceutical composition comprising a compound of claim 1, or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof, and a pharmaceutically acceptable carrier.

27. The pharmaceutical composition of claim 26, wherein the compound is:

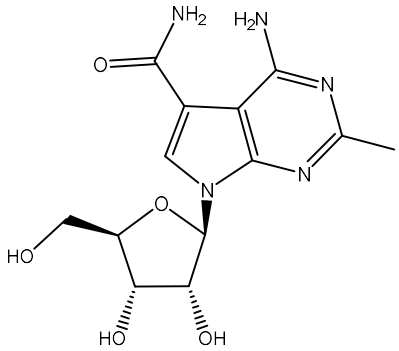


,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof, and a pharmaceutically acceptable carrier.

28. Use of a compound of claim 1, or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof, in the manufacture of a medicament for treating a viral infection or a viral-infection associated disease or disorder in a subject in need thereof.

29. Use of the compound:



,

or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer, racemate or mixture thereof in the manufacture of a medicament for treating a viral infection or a viral-infection associated disease or disorder in a subject in need thereof.

30. The use of claim 29 wherein the viral infection is norovirus.